Twenty-first-century Americans love food, but they fear the results of eating. Salmonella, low fat, low carb, sugar-free, cage-free, GMO, free range, and high fiber comprise just a portion of the concerns through which eaters in the United States often parse their food choices. Until the late nineteenth century, however, food purchasers generally cared more about fraud than health. The increasing separation between people and the place and time of food production after the Civil War amplified concerns over adulteration of foods to new levels. During the Progressive Era, concern over fraud gave way to widespread fear that adulterated foods sickened or killed eaters. Jonathan Rees’s latest book, *The Chemistry of Fear: Harvey Wiley’s Fight for Pure Food*, explores the transition from concern over fraud to concern over health though an examination of one of the most prominent figures in the movement for “pure food,” chemist Harvey Washington Wiley.

Indiana-born Wiley studied medicine and chemistry. He led Purdue University’s chemistry department until 1883, when he became the head chemist at the precursor to the US Food and Drug Administration, the US Department of Agriculture’s Bureau of Chemistry. Wiley became a household name when he undertook a series of human trials between 1902 and 1907 to determine the effects of common food preservatives on humans. Attention garnered by the experiments with Wiley’s “Poison Squad,” as the press dubbed the volunteers, catapulted him into the limelight as a leader of the pure food movement. It also increased public support for governmental regulation of the national food supply, such as the landmark 1906 Pure Food and Drug Act (PFDA). Wiley left the government in 1912 to become an editor with *Good Housekeeping* magazine, an orator, and a professional advocate for pure food.

Wiley was a complicated and contradictory person. His charisma drew devotion from his supporters, but his uncompromising positions brought him into frequent friction with food manufacturers and his superiors. Wiley made important scientific contributions to agricultural science, yet his relationship to the scientific process grew
strained. His outsized ego, combined with the notoriety the Poison Squad experiments brought, caused him to resent peer review. A continued pursuit of money and fame led Wiley to distort the past and make dubious scientific claims to which he stuck doggedly in the face of contrary evidence and criticism from the scientific community. Wiley changed how Americans eat in multiple ways, yet he came to view his life’s work as a failure.

Numerous authors have offered histories of Wiley and the PFDA, including Wiley himself. Some celebrate Wiley as a champion of consumers who seemingly single-handedly protected America from predatory food manufacturers. Others take a more critical view of the chemist, including scholarly accounts that place Wiley in the pocket of food manufacturers seeking to use government regulatory mechanisms to prevent competition. Most accounts of Wiley ask economic and political questions. Rees offers a refreshing counterpoint by focusing on food and eating. The food-centric approach provides multiple benefits. By employing a selection of foods as case studies, Rees places Wiley and the PFDA inside a wider transformation of American eating. By examining Wiley’s relationship to food, Rees draws a multidimensional picture of Wiley as a person and as a historical actor. Alongside his continual quest for money and fame, food and eating greatly influenced Wiley’s ideas and actions. Wiley sought to use the power of the federal government to align American eating with his ideals of healthy food, ideals that Wiley believed identical to those consumers wanted, or should want. He grew increasingly intractable about what he considered “natural” in food. Anything added to food became an adulterant in Wiley’s eyes, even if the same substance appeared naturally in other foods. Wiley saw no ethical conflict in working in a private capacity for food manufacturers whose products he found especially wholesome or flavorful. The book’s food-centric approach allows Rees to explore the role of fear in shaping American eating. While contemporary chemists sought to define food’s “purity” through science, Wiley used the idea of purity flexibly to cultivate the fear he needed to sustain public support for his views, to cover for his dubious science, and to preserve his fame and authority. Many anxieties Americans feel about their food today come from Wiley’s efforts to convince the public that food additives caused harm.

Rees writes in an easy but confident style. It is clear that extensive research underpins the book, yet its narrative remains on message throughout and does not become mired in irrelevant details or theory. Rees successfully sidesteps the hagiography trap biography often lays, and into which some previous scholars trod. His nuanced explorations of Wiley mete out praise and criticism alike. Rees places Wiley as a pivotal actor at an inflection point in American eating but takes pains to separate Wiley’s historical actions from the chemist’s later self-aggrandizing portrayals of those events. For example, Rees contrasts Wiley’s claims later in life to have all but authored the PFDA with Wiley’s statements at the time the act passed in which he credited others and diminished his own contributions. In less adept hands this technique would remain at the level of myth-busting. Rather than simply tabulating Wiley’s falsehoods, Rees uses the variance in Wiley’s views over time to bring depth and contingency to the narrative.

Even exemplary books offer areas for critique. As much as Wiley’s biography offers an excellent tool to draw together many facets of the pure food movement and the history of American eating more generally, the biographical approach tends to shift other contemporary actors into the shadows. Rees makes clear that The Chemistry of Fear only captures some of the more important facets of Wiley’s life. The facets Rees selected advance the book’s argument well, but specialist readers may wish for other selections. Although they comprise a chronological whole, the book’s chapters make multiple passes through time. This spares the reader from balancing multiple, simultaneous narrative threads, but academic skimmers may
find it difficult to obtain a complete snapshot of Wiley’s life at any particular point in time. The iterative narrative also obscures slightly the relative importance of the described matters and events to Wiley at any given moment. Despite the title, readers expecting an in-depth study of the history of food chemistry practices may find Rees’s treatment somewhat general. Errors of fact in the volume appear inconsequential, such as Rees’s assertion that cows were imported into cities to supply milk. In most cities milch cows preceded, but were subsequently pushed out, by urbanism. None of these minor critiques diminishes the book’s overall value.

Rees’s accessible writing style and ability to keep complex subjects from losing coherence make *The Chemistry of Fear* suitable for a broad audience. Non-academic readers and academic readers alike will find much value in this book. Scholars in food studies and social history, especially those working on the Progressive Era, will likely benefit most from Rees’s efforts. *The Chemistry of Fear* contributes to the history of professionalism and expertise, along with scholarship on controversial yet influential figures in science and technology history such as Frederick Winslow Taylor, Thomas Edison, or Henry Ford. Advanced undergraduates can be assigned the book in its entirety, while early undergraduates may find excerpts more suited to their syllabi. *The Chemistry of Fear* helps readers understand and appreciate the interesting history of eating in the United States in new ways.

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